The following is claimed:

1. A method for controlling access of a subscriber station to a wireless communications system, the method comprising the steps of:

obtaining a first performance indicator and a second performance indicator for a reverse link associated with a subscriber station seeking access to the wireless communications system;

establishing a blocking threshold value based on the measured second performance parameter; and

deciding whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of the first performance indicator to the obtained blocking threshold value.

2. The method according to claim 1 wherein the deciding step comprises denying access to the subscriber station if the first performance indicator exceeds the blocking threshold value to prevent degradation of performance of the wireless communications system.

3. The method according to claim 1 wherein the deciding step comprises granting access to the subscriber station if the first performance indicator is less than or equal to the blocking threshold.

4. The method according to claim 1 wherein the obtaining step comprises obtaining an interference rise over the thermal noise floor as the first performance indicator and loading as the second performance indicator; the interference rise over the thermal noise floor being a ratio of the total reverse link power received by a base station to the estimated thermal noise power in the receive band and the loading indicating how much each subscriber station contributes to interference.

5. The method according to claim 1 further comprising the step of obtaining at least one of the reverse link frame error rate and dropped call rate to modify a value of the blocking threshold for use in the deciding step.

6. The method according to claim 1 wherein the establishing step comprises establishing a blocking threshold range defined by a maximum blocking threshold, a minimum blocking threshold, wherein the maximum blocking threshold and the minimum blocking threshold are determined based on estimated variation in the reverse frame error rate associated with the subscriber station.

7. The method according to claim 1 wherein the obtaining step obtains a loading estimate as the second performance indicator and wherein the loading estimate includes interference contributions from subscriber stations in a subject cell and interference contributions from subscriber stations in other surrounding cells.

8. The method according to claim 1 wherein the adjusting step further comprises:

dynamically adjusting the blocking threshold value based on a loading estimate of a base station and at least one metric reflecting performance of active subscriber stations using resources of the base station.

9. The method according to claim 1 wherein the adjusting step further comprises:

dynamically adjusting the blocking threshold value based on at least one of reverse link frame error rate (RFER) observed at a base station and a dropped call rate being observed at the base station.

10. The method according to claim 1 wherein the adjusting step further comprises: relaxing the blocking threshold to allow more subscriber stations to access the wireless communications system if a reverse link frame error rate (RFER) and a dropped call rate indicate an acceptable level of performance of the wireless communications system.

11. The method according to claim 4 wherein the adjusting step further comprises:

refining the adjustment of the blocking threshold value with reference to at least one additional performance parameter in addition to the interference rise and the loading if the loading on the wireless communications system exceeds a predetermined triggering threshold.

~~12~~. A method for controlling access of a subscriber station to a wireless communications system, the method comprising the steps of:

establishing a relationship of blocking threshold values to loading levels on a coverage area of a base station;

measuring an actual loading level on the base station associated with a subscriber station seeking access to a wireless communications system;

determining a corresponding a blocking threshold value based on the actual measured loading level with reference to the established relationship;

measuring an interference rise for the reverse channel of the subscriber station; and

deciding whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of the first performance indicator to the determined blocking threshold value.

13. The method according to claim 12 wherein the deciding step comprises denying access to the subscriber station if the first performance indicator exceeds the determined blocking threshold value to prevent degradation of performance of the wireless communications system.

14. The method according to claim 12 wherein the deciding step comprises granting access to the subscriber station if the first performance indicator is less than or equal to the determined blocking threshold.

15. The method according to claim 12 wherein the obtaining step comprises obtaining an interference rise over the thermal noise floor as the first performance indicator and loading as the second performance indicator; the interference rise over the thermal noise floor being a ratio of the total reverse link power received by a base station to the estimated thermal noise power in the receive band and the loading indicating how much each subscriber station contributes to interference.

16. The method according to claim 12 further comprising the step of obtaining at least one of the reverse link frame error rate and dropped call rate to modify the blocking threshold from a previous value to a revised value for use in the deciding step.

17. The method according to claim 12 further comprising the steps of:

measuring a reverse frame error rate of a reverse channel and a dropped call rate at the base station through which a subscriber station seeks access to the wireless communications system;

temporarily increasing a previous value of the blocking threshold to a revised value for use in the deciding step if the measured reverse frame error rate is less than a nominal reverse frame error rate by more than a specified amount and if the measured dropped call rate is less than a nominal dropped call value by more than a specified amount.

18. The method according to claim 12 further comprising the steps of:

measuring a reverse frame error rate of a reverse channel and a dropped call rate at the base station through which a subscriber station seeks access to the wireless communications system;

temporarily decreasing a previous value of the blocking threshold to a revised value for use in the deciding step if the measured reverse frame error rate

is greater than a nominal reverse frame error rate by more than a specified amount and if the measured dropped call rate is greater than a nominal dropped call value by more than a specified amount.

19. The method according to claim 12 wherein the actual loading level is estimated according to the following mathematical expressions:

*Rise(t) = rv(t) + A/(1- WC(t)*B),* and

*L = WC(t) * B*, where *Rise(t)* is measured interference rise as a function of time, *rv(t)* is a generally random clutter contribution to the measured interference rise in a propagational environment of the wireless communications system, *A* is an estimated external interference indicator, *B* is an internal interference indicator, *WC(t)* is time-domain Walsh code data, and *L* is loading.

20. The method according to claim 12 wherein the actual loading level is estimated according to the following mathematical expression:

$$L = \frac{WC \bullet \frac{\partial Rise}{\partial WC}}{Rise + WC \bullet \frac{\partial Rise}{\partial WC}}$$, where δWC is a change in a number of Walsh codes supporting currently active subscriber stations, $\delta Rise$ is a change in interference level with the arrival or departure of the currently active subscriber stations, *WC* is a reference measurement of the number of active Walsh codes for a particular base station supporting the currently active subscriber stations, and *Rise* is a reference measurement of the interference level for the particular base station.

21. A system for controlling access of a subscriber station to a wireless communications system, the system comprising:

a reverse-link performance measurer for measuring a signal performance parameter associated with the reverse link transmission of the subscriber station;

a loading detector for detecting the loading level of the channels served by the base station;

a database for storing a desired relationship of a desired signal performance parameter value to a desired loading level; and

a blocking manager deciding whether to grant access of the subscriber station to the wireless communications system based on a comparison of the measured performance parameter and the detected loading level to the desired relationship.

22. The system according to claim 21 wherein the signal performance parameter comprises an interference rise level estimated from granting access of the subscriber station to the wireless communications system.

23. The system according to claim 21 wherein the loading level represents a ratio of the active channels of a base station to the available channels of the base station.